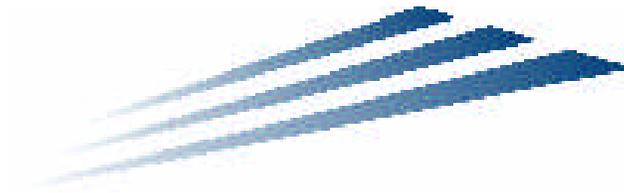


# KENTUCKY TRANSPORTATION CENTER

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**EVALUATION OF POST-INTERCHANGE GUIDE SIGNS**





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### **KENTUCKY TRANSPORTATION CENTER**

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[ktc@engr.uky.edu](mailto:ktc@engr.uky.edu)

**Research Report**  
KTC-02-23 / UI2-02-1F

**EVALUATION OF POST-INTERCHANGE GUIDE SIGNS**

by

Monica L. Barrett  
Research Engineer

Jerry G. Pigman  
Research Engineer

Kentucky Transportation Center  
College of Engineering

and

Ronald E. Langley, Ph.D.  
Director  
Survey Research Center

University of Kentucky  
Lexington, Kentucky

in cooperation with

Kentucky Transportation Cabinet  
Commonwealth of Kentucky

and

Federal Highway Administration  
U.S. Department of Transportation

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December 2002



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## EXECUTIVE SUMMARY

There are four basic types of guide signs related to tourist and recreational facilities, each with its own requirements and purpose. These include limited supplemental guide signs, cultural and recreational supplemental guide signs, fifth legend logos, and tourist oriented directional signs. Under the category of limited supplemental guide signs is a new pilot program to include a similar type sign at 10- and 20-mile points before an interchange. These signs are called post-interchange guide signs.

This report evaluates these experimental post-interchange guide signs. This evaluation included a before and after study of crash information including total numbers and trends, a survey of attraction visitors regarding motorist understanding of the signs, and a review of attendance records for the attractions.

The data shows the signs caused no increased crash risks for drivers. The survey results showed the signs were large enough for tourists to view with ease and that visitation increased because of the signs. Comments from the attraction representatives reinforced the fact that the signs were beneficial and should continue to be used.

Therefore, it appears that the use of post-interchange brown guide signs has been successful and that additional installations at selected locations are warranted.



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Chip Tullar	Patti's 1880's Settlement
Michael Tullar	Patti's 1880's Settlement



## **1.0 INTRODUCTION**

If you have been driving around Kentucky, then you have seen a guide sign. These signs are posted to help motorists find major attractions in the area. Colleges, airports, military bases, arenas, convention centers, stadiums, parks, major recreational areas, and historical attractions are among the sites posted on Kentucky's guide signs (1).

The signs are not designed as advertisements but are used as directional guides. To be a candidate for being listed on a guide sign, a facility must prove it attracts large numbers of visitors each year. Each sign can list a maximum of two messages. They may be brown, green, or a combination of both based upon the type of sign and its location (1).

There are four basic types of guide signs related to tourist and recreational facilities, each with its own requirements and purpose. These include limited supplemental guide signs, cultural and recreational supplemental guide signs, fifth legend logos, and tourist oriented directional signs. The intent of these signs is for traffic control and not an advertising medium.

Under the category of limited supplemental guide signs is a new pilot program to include a similar type sign at 10- and 20-mile points before an interchange. These signs are called post-interchange guide signs. This report evaluates these experimental signs.

## **2.0 BACKGROUND**

In January 1999, the Kentucky Transportation Cabinet asked the Federal Highway Administration for approval of an experimental pilot project involving post-interchange guide signs. The use of the post-interchange guide signs would be for tourist attractions and recreational areas that generate major traffic and already qualify for an original supplemental sign. For attractions along interstates, there would be two signs located at approximately the 10- and 20-mile point before the nearest interchange of the attraction. For attractions along parkways, there would only be one sign located at approximately the 10-mile point before the interchange. There could be up to three attractions per sign and the signs would list the mileage to the attraction. The signs would be in accordance with the Manual on Uniform Traffic Control Devices and would be white letters and border on a brown background.

### **2.1 Objective**

The objective of this project was to determine the effectiveness of these post-interchange signs. This was to include:

1. A before and after study of crash information including total numbers and trends.
2. A survey of attraction visitors regarding motorist understanding of the signs.
3. A review of attendance records for the attractions.

### **3.0 METHODOLOGY**

The Kentucky Transportation Center would complete three major tasks as a result of this project.

1. The before and after crash information would be obtained through the Collision Report Analysis for Safer Highways (CRASH) database. The crash information would be reviewed at the locations of all the signs from January 2000 to present. This information would show if the signs caused a distraction for the drivers resulting in a crash.
2. A survey of motorist understanding of the signs would be conducted at each attraction. This survey would determine if drivers observed the signs, if they visited the attraction because of the signs, and if they understood the meaning of the color and message of the signs among other questions.
3. Attendance records for each of the attractions would be reviewed to determine if the attendance increased after the signs were installed. A control site would also be evaluated to determine if attendance increased in general.

### **4.0 SIGN CRITERIA**

Limited supplemental guide signs are official guide signs approaching interchanges on interstates, parkways, and other fully controlled access highways. The signs are for historic sites, cultural, recreational, or entertainment facilities or areas of natural phenomenon or scenic beauty (1). Sites are required to meet certain criteria in Kentucky in order to qualify for these signs. These criteria are listed below.

- In cities with less than 100,000 population, annual visitation at the attraction must be 10,000 or greater than the average daily traffic count at the attraction's interchange.
- In cities with a population over 100,000, annual visitation at the attraction must be 75,000 or greater than the average daily traffic count at the attraction's interchange.
- Historic sites must have an annual attendance of 5,000. An historic site must be listed on the National Register of Historic Places.
- Attractions and historic sites must be located within 50 miles of the interchange.
- At least one-third of the attraction's visitors must come from beyond 20 miles of the attraction or historic site.

If the tourist attraction is not visible from the interchange, trailblazer signs must be installed at locations where a turn is required once the motorist is off the interstate. Trailblazers may be in the form of cultural and recreational guide signs, tourist oriented directional signs, or legal billboards.

Tourist attractions and historic sites that have a limited supplemental guide sign at their interchange on certain interstates and parkways are eligible to apply for post-interchange guide signs. These signs are placed miles in advance of the interchange to give a motorist notice of an upcoming attraction. These signs list the actual mileage to the attraction not the exit number.

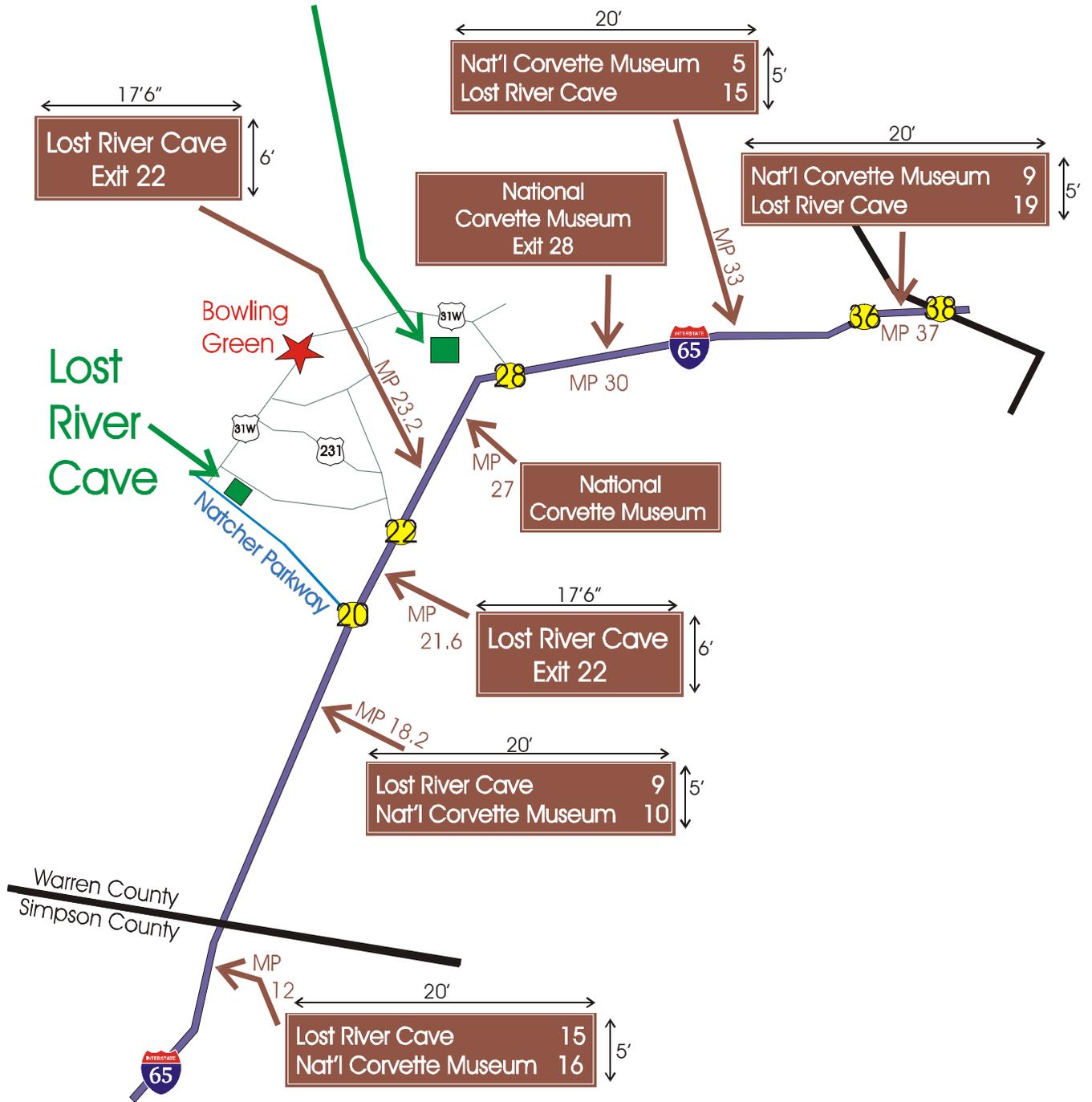
## 5.0 SIGN LOCATION

There are several tourist attractions that have the new post-interchange signs. These attractions include the National Corvette Museum, Lost River Cave and Valley, Kentucky Speedway, Patti's 1880's Settlement, Diamond Caverns, American Cave Museum, and Kentucky Down Under. All of these attractions are along the Interstate 65 corridor in southern Kentucky with the exception of Patti's 1880's Settlement, which is located near Interstate 24 in western Kentucky, and the Kentucky Speedway on Interstate 71 in northern Kentucky.

The Kentucky Speedway was not considered in this evaluation due to the nature of the attraction. Since attendance is based on dates when races are being conducted, it was not a good candidate to evaluate with the objectives of this project. Attendance would be based on race dates and not on the viewing of the post-interchange signs.

There were three sets of signs that were evaluated. One set included the National Corvette Museum and the Lost River Cave and Valley in Bowling Green, Kentucky. These two attractions were on the same post-interchange signs. The post-interchange signs were located on Interstate 65 at milepost 33 and 37 in the southbound direction and milepost 12 and 18.2 in the northbound direction (Figure 1). There were also limited supplemental guide signs located at milepost 23.3 (Lost River) and 30 (Corvette Museum) in the southbound direction and milepost 21.6 (Lost River) and 27 (Corvette Museum) in the northbound direction.

# National Corvette Museum



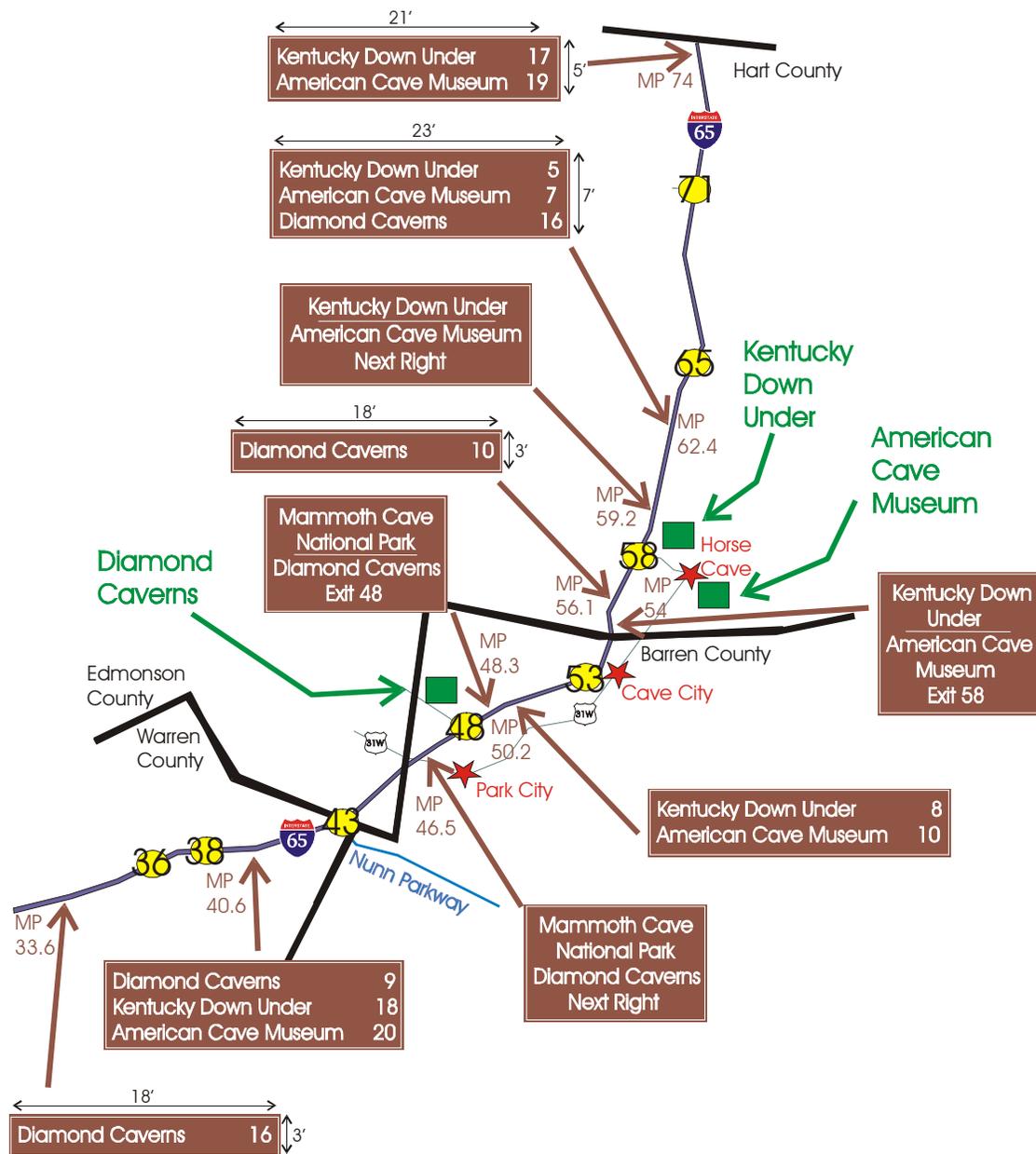
**Figure 1. Bowling Green Post Interchange Sign Locations**

The National Corvette Museum had three logo signs, one on Interstate 65 before exit 28 in both directions and one on the northbound/southbound merged exit ramp (Figure 2). There was also one trailblazer sign for the National Corvette Museum on the merged exit ramp. The Lost River Cave had trailblazer signs on US 231 and Cave Mill Road but none directly at the end of the exit ramp.



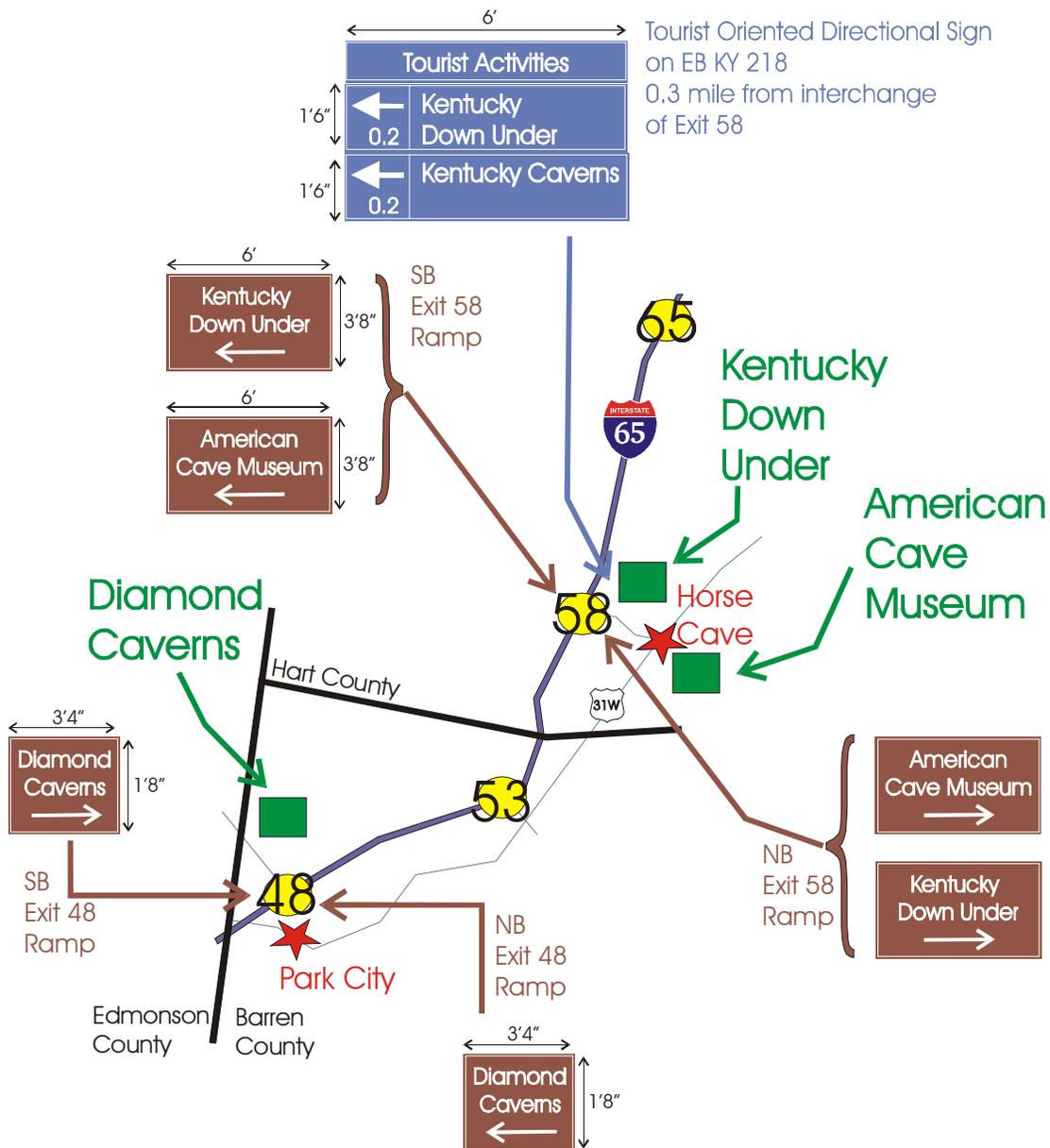
Figure 2. Bowling Green Secondary Sign Locations

The next set of signs included Kentucky Down Under, Diamond Caverns, and American Cave Museum on a series of signs. These attractions are in the cities of Horse Cave in Hart County and Park City in Barren County. The post-interchange signs were located on Interstate 65 at milepost 56.1, 62.4, and 74 in the southbound direction and milepost 33.6, 40.6 and 50.2 in the northbound direction (Figure 3). There were also limited supplemental guide signs located at milepost 48.3 (Diamond Caverns) and 59.2 (Kentucky Down Under and American Cave Museum) in the southbound direction and milepost 46.5 (Diamond Caverns) and 54 (Kentucky Down Under and American Cave Museum) in the northbound direction.



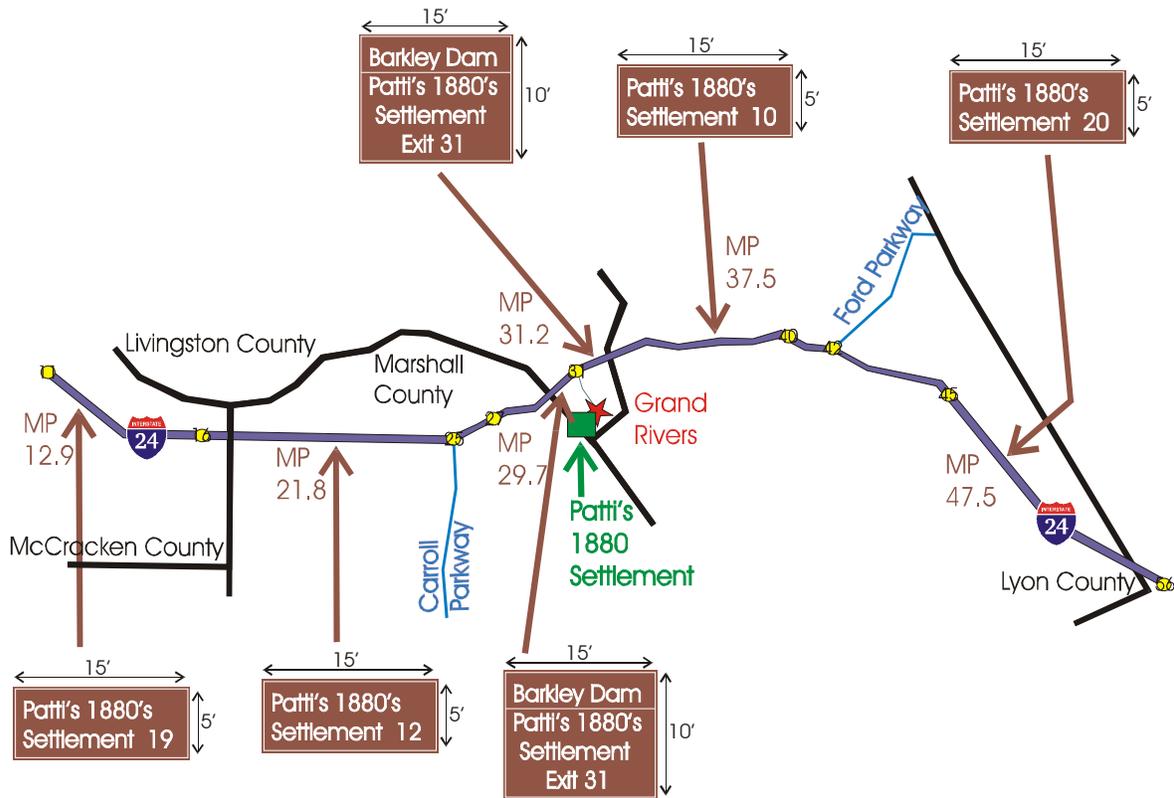
**Figure 3. Horse Cave Area Post Interchange Sign Locations**

All three attractions had trailblazer signs on the exit ramps of the interstate (Figure 4). The trailblazer signs for Diamond Caverns were on exit ramp 48. Kentucky Down Under and American Cave Museum trailblazer signs were on exit ramp 58. Kentucky Down Under also had a tourist oriented directional sign on KY 218.

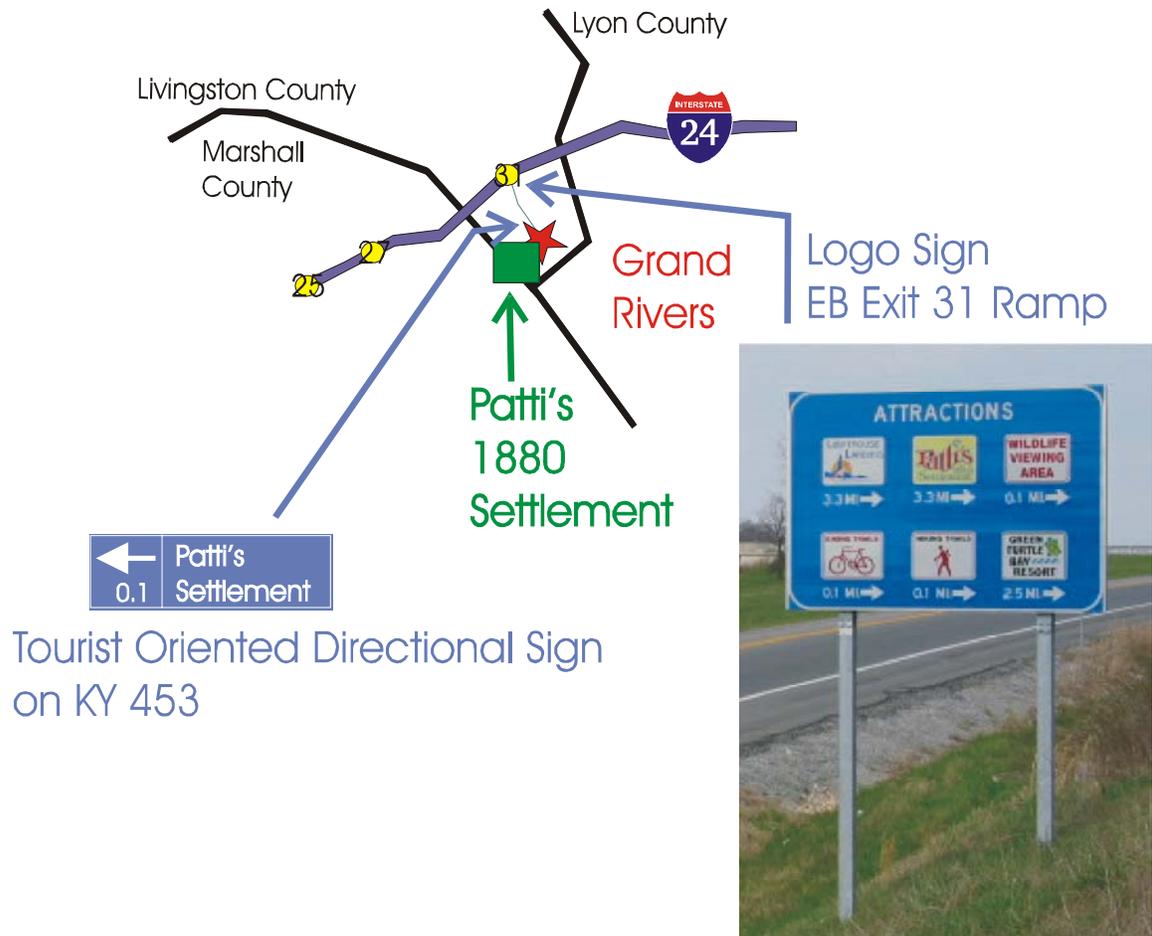


**Figure 4. Horse Cave Area Secondary Sign Locations**

The last set of signs was for Patti's 1880's Settlement at Grand Rivers in Livingston County. The post-interchange signs were located on Interstate 24 at milepost 37.5 and 47.5 in the westbound direction and milepost 12.9 and 21.8 in the eastbound direction (Figure 5). There were also limited supplemental guide signs located at milepost 31.2 in the westbound direction and milepost 29.7 in the eastbound direction. This attraction had a logo sign on exit ramp 31 and a tourist oriented directional sign on KY 453 (Figure 6).



**Figure 5. Grand Rivers Post Interchange Sign Locations**



**Figure 6. Grand Rivers Secondary Sign Locations**

## 6.0 CRASH DATA

Crash data for all the post-interchange sign locations on Interstate 24 and Interstate 65 were reviewed. The crash data were for the period of January 2000 through June 2002. The Collision Report Analysis for Safer Highways (CRASH) database was used to determine if a crash occurred in the surrounding area of the sign. The surrounding area included a half-mile before and after the sign. Fourteen post-interchange sign locations were reviewed. There were no crash reports found in the surrounding area of the signs. Therefore, there has been no reported evidence that the post-interchange guide signs have increased crashes in the location area once they were installed. It was assumed that this would be the result concluded from the analysis because merely observing a sign was very unlikely to have been a factor contributing to a crash.

## 7.0 ATTRACTION ATTENDANCE RECORDS

Attendance records for the attractions were collected. This data includes records from before and after the signs were installed. The sign installation dates are listed in Table 2.

<b>Attraction</b>	<b>Sign Installation Date</b>
Lost River Cave and Valley / National Corvette Museum	November 2000
Patti's 1880's Settlement	January 2001
American Cave Museum / Kentucky Down Under / Diamond Caverns	September 2001

**Table 1 Sign Installation Date**

The attendance records are summarized in Table 3. All attractions provided attendance records except for Kentucky Down Under. The shaded areas in Table 3 represent the months after the signs were installed.

The attendance records show a general increase in tourist visitation to all of the sites providing data. However, Mammoth Cave National Park was used as a control site and the attendance records show a general increase in visitation at that site also. Mammoth Cave has numerous brown guide signs indicating direction and mileage; therefore, it is already benefiting from signs similar to those being evaluated as part of this study.

It does appear that numerous visitors were attracted to the study sites as a result of observing the brown post-interchange signs; however, it cannot be conclusively stated that these signs were the only factor in the increased visitation. A longer evaluation period before and after installation of the signs is needed to determine if the signs were a factor in increased visitation.

Attraction		2000	2001	2002	2000-2001 % Change	2001-2002 % Change
American Cave Museum	Jan	95	155	274	63.2	76.8
	Feb	252	311	469	23.4	50.8
	Mar	1,009	930	1,284	-7.8	38.1
	Apr	1,499	1,792	1,947	19.5	8.6
	May	1,650	1,797	1,709	8.9	-4.9
	Jun	1,623	1,649	2,228	1.6	35.1
	Jul	2,357	2,983	3,039	26.6	1.9
	Aug	1,812	2,129	-	17.5	-
	Sep	932	1,145	-	22.9	-
	Oct	975	909	-	-6.8	-
	Nov	643	596	-	-7.3	-
	Dec	169	307	-	81.7	-
Diamond Caverns	Jan	221	273	473	23.5	73.3
	Feb	407	446	772	9.6	73.1
	Mar	1,061	1,515	-	42.8	-
	Apr	2,322	2,536	-	9.2	-
	May	1,719	2,060	-	19.8	-
	Jun	2,716	3,268	-	20.3	-
	Jul	4,715	5,826	-	23.6	-
	Aug	3,272	4,071	-	24.4	-
	Sep	1,730	2,289	-	32.3	-
	Oct	1,342	1,601	-	19.3	-
	Nov	732	1,236	-	68.9	-
	Dec	239	765	-	220.1	-
Kentucky Down Under	NO DATA AVAILABLE					
Lost River Cave and Valley	Jan	-	134	404	-	201.5
	Feb	-	219	-	-	-
	Mar	-	1,065	-	-	-
	Apr	-	2,898	-	-	-
	May	-	4,107	-	-	-
	Jun	2,420	4,903	-	102.6	-
	Jul	4,572	6,210	-	35.8	-
	Aug	3,353	4,706	-	40.4	-
	Sep	2,708	3,617	-	33.6	-
	Oct	-	3,600	-	-	-
	Nov	322	1,962	-	509.3	-
	Dec	122	120	-	-1.6	-

Note: Gray area denotes attendance at attractions after installation of the post-interchange signs.

**Table 2. Attraction Attendance Records**

Attraction		2000	2001	2002	2000-2001 % Change	2001-2002 % Change
National Corvette Museum	Jan	4,915	3,924	4,353	-20.2	10.9
	Feb	7,560	5,616	5,749	-25.7	2.4
	Mar	16,126	9,758	-	-39.5	-
	Apr	15,172	14,686	-	-3.2	-
	May	11,140	12,411	-	11.4	-
	Jun	13,928	16,219	-	16.4	-
	Jul	20,633	19,880	-	-3.6	-
	Aug	14,954	16,642	-	11.3	-
	Sep	16,098	13,064	-	-18.8	-
	Oct	11,101	11,746	-	5.8	-
	Nov	6,571	6,353	-	-3.3	-
	Dec	3,982	6,391	-	60.5	-
Patti's 1800's Settlement	Jan	11,276	12,026	12,425	6.7	3.3
	Feb	14,740	14,454	13,937	-1.9	-3.6
	Mar	21,160	20,900	19,696	-1.2	-5.8
	Apr	29,579	29,919	-	1.1	-
	May	34,605	35,045	-	1.3	-
	Jun	37,403	37,636	-	0.6	-
	Jul	45,493	46,079	-	1.3	-
	Aug	33,469	35,068	-	4.8	-
	Sep	30,958	29,998	-	-3.1	-
	Oct	30,370	29,413	-	-3.2	-
	Nov	23,380	25,911	-	10.8	-
	Dec	24,679	33,843	-	37.1	-
Mammoth Cave National Park	Jan	87,536	92,422	92,389	5.6	0.0
	Feb	88,980	84,631	85,961	-4.9	1.6
	Mar	130,307	124,351	125,400	-4.6	0.8
	Apr	155,470	172,121	-	10.7	-
	May	163,393	195,851	-	19.9	-
	Jun	210,883	225,981	-	7.2	-
	Jul	256,005	297,661	-	16.3	-
	Aug	209,310	262,033	-	25.2	-
	Sep	172,186	158,683	-	-7.8	-
	Oct	156,210	150,867	-	-3.4	-
	Nov	111,299	114,447	-	2.8	-
	Dec	99,942	105,221	-	5.3	-

Note: Gray area denotes attendance at attractions after installation of the post-interchange signs.

**Table 2 (cont). Attraction Attendance Records**

## 8.0 SURVEY

Motorist surveys were conducted at some of the attraction sites. Table 1 shows the attractions, the dates, and the total number of surveys collected at each site. The survey questions and responses are located in Appendix A and B, respectively.

Attraction	Date	Surveys Collected
American Cave Museum / Kentucky Down Under	October 26-28, 2001	62
Lost River Cave and Valley	August 24-26, 2001 September 2, 2001	163
National Corvette Museum	August 18-19, 2001	334
Patti's 1880's Settlement	August 18-19, 2001	269

**Table 3. Survey Sites**

### 8.1 All Survey Data

A total of 828 surveys were collected. Of those that answered the question, 79 percent of the respondents indicated they saw the brown post-interchange guide signs on the way to the attraction, 16 percent did not, and 5 percent did not travel on the interstates where the brown signs were located. Over 35 percent of the respondents indicated they visited the attraction because they observed the brown signs. Fourteen percent of the respondents visited the attraction because they saw the signs on that day, while an additional 20 percent of all remaining respondents visited the attraction because they saw the brown signs on a previous day. One percent learned of the attraction because of seeing the signs at some unspecified time. Ten percent of the respondents had never seen a brown sign.

Almost half (45%) of the respondents said they knew what the color of the sign meant; however, only 45 percent of those respondents correctly identified the sign to mean a tourist attraction.

Of those who had ever seen a brown sign, 78 percent said the signs were large enough in size and 79 percent said the print on the signs was large enough. Fifty-four percent replied that the signs would be more useful if an exit number was included on the signs. Thirteen percent had trouble finding the attraction after exiting the interstate. When asked if secondary signs were helpful in finding the attraction, 54 percent said yes.

The surveys were completed by residents in Kentucky (28%), 38 other states, the District of Columbia, and Canada.

### 8.2 Kentucky Survey Data

When evaluating the survey results from only the Kentucky residents, the results were very similar to the results from all the states. Of the 218 surveys completed from Kentucky, 65 percent of the respondents saw the brown post-interchange guide signs on the way to the attraction, 26 percent did not, and 9 percent did not travel on the interstates where the brown

signs were located. About 30 percent of the respondents indicated they visited the attraction because they observed the brown signs. Six percent of the respondents visited the attraction because they saw the signs on that day, while 23 percent visited the attraction because they saw the brown signs on a previous day. One percent learned of the attraction because of seeing the signs at some unspecified time. Nineteen percent of the Kentucky respondents had never seen a brown sign.

Thirty-seven percent of the respondents knew what the color of the sign meant; however, only 38 percent of those respondents correctly identified the sign to mean a tourist attraction.

Of those who had ever seen a brown sign, 89 percent said the signs were large enough in size and 91 percent said the print on the signs was large enough. Sixty-eight percent replied that the signs would be more useful if an exit number was included on the signs. Twelve percent had trouble finding the attraction after exiting the interstate. When asked if secondary signs were helpful in finding the attraction, 46 percent said yes.

The Kentucky respondents were from 60 different counties in the state. Warren, Jefferson, Marshall, McCracken, and Henderson had the most survey respondents (40% combined); followed by Daviess, Christian, Hardin, Fayette, and Boyle (15% combined). The remaining 45 percent was scattered among 50 other counties. These results show that the attraction visitors were not just local to the area of the attraction.

### **8.3 Survey Results**

In general, given that 35% of the respondents indicated they visited the attraction because they observed the brown post-interchange signs, it appears that the survey results show the signs beneficial in providing information that attracted tourist to specific attractions. It was found that the signs were clearly understood and the use of secondary signs significantly increased the ease of locating an attraction.

## **9.0 ATTRACTION COMMENTS**

Several attractions wrote letters with their comments regarding the benefits of the brown post-interstate signs (Appendix C). All of the attractions felt it increased their business and were very happy with the signs.

### **Michael Tullar, President at Patti's Settlement**

He noted that his AM business had increased after the signs were installed and more people were asking directions to Patti's at the Kentucky Western Waterland Information Center. Also, loans were easier to secure for improvements to Patti's because of their involvement in this new signage project.

**Gary Berdeaux, Managing Partner at Diamond Caverns**

He praised the signs by indicating that “today, the interstate brown signs are our life-blood.” With so many caves falling into demise with lack of funding and visitation due to the lack of billboard advertising along the interstates, survival of the cave business would be extremely difficult without these signs. He further noted “it would be a shame for the fourth oldest show-cave in the country to fail due to lack of tourism exposure while being located only a mile from the interstate.”

**Rho Lansden, Director of Lost River Cave & Valley**

She responded to the signs as follows: “In addition to providing funding for historic and ecological education opportunities, the increased visitation brought about by this important signage program has made it possible for the Friends of the Lost River to provide many needed capital improvements. The signage program brings benefits, not only to our site, but also to our community with jobs and a better quality of life in Warren County. Not only is Lost River Cave & Valley securing its future with the help of the signage program, but all the people in the Commonwealth gain, both economically and in terms of the protection of its heritage.”

**10.0 CONCLUSIONS AND RECOMMENDATIONS**

With the new post-interchange guide signs, information can be provided to advise travelers of tourist and recreational attractions miles in advance of the interchange to the attraction. This allows the motorist time to decide whether to visit an attraction before they actually have to exit the roadway.

This project reviewed several areas related to the post-interchange signage to determine if these signs were beneficial and should continue to be used. First, crash data were reviewed. The data showed the signs caused no increased crash risks for drivers.

Second, a survey of the visitors to the attractions with the signage was conducted. The survey results showed the signs were large enough for tourists to view with ease and that visitation increased because of the signs. Since the surveys were taken shortly after installation of the signs, it is likely to expect that more travelers will see these signs in the future and attendance at the attractions should increase even more. The secondary signs after exiting the interstate allowed the tourists to find the attraction with little difficulty.

Third, attendance records from the attractions with the signage were reviewed. The records showed a general increase in tourist visitation to all of the sites that provided data. However, a control site was included in this analysis and attendance increased at that site also. A longer evaluation period may have proven the benefit of the signs more conclusively.

Comments from the attraction representatives reinforced the fact that the signs were beneficial and should continue to be used. The increased attendance has allowed these attractions to make capital improvements to their property and help secure the future of the attraction.

Therefore, it appears that the use of post-interchange brown guide signs have been successful and that additional installations at selected locations are warranted.

## **11.0 REFERENCES**

1. “Kentucky Guide Signs: Don’t Be Passed By” Kentucky Transportation Cabinet, [www.kytc.state.ky.us/sign](http://www.kytc.state.ky.us/sign) October 2000.

## **12.0 APPENDICES**





- 10 – Was the print on the signs large enough for clear viewing? YES NO
- 11 – Currently, the brown post-interchange signs tell the NUMBER OF MILES to an attraction. Do you think the signs would be more useful if they showed the EXIT NUMBER instead? YES NO
- 12 – Did you have any trouble finding this attraction? YES NO
- 13 – Did the secondary brown signs (once you exited the interstate) help you find the attraction? YES → GO TO 15 NO
- 14 – How did you locate the attraction? \_\_\_\_\_
- 15 – Which of the brown signs did you find the most helpful; the post-interchange signs on the interstate, or the secondary signs after you exited the highway? POST SECONDARY  
SAW NO SECONDARY SIGNS
- 16 – Have you visited this attraction before today? YES NO → GO TO 18
- 17 – How many times? \_\_\_\_\_
- 18 – Do you think you will visit this attraction again? YES NO
- 19 – Would you recommend this attraction to others? YES NO
- The following questions are for analytic purposes only.*
- 20 – What is your state of residence? \_\_\_\_\_
- 21 – What is your county of residence? \_\_\_\_\_
- 22 – How many visitors are in your group today?  
(If part of a tour group, please circle the word 'tour'). \_\_\_\_\_ TOUR
- 23 – How many children are in your group? \_\_\_\_\_

**THANK YOU FOR YOUR PARTICIPATION IN THIS SURVEY!**

## 12.2 APPENDIX B – SURVEY RESPONSES

### All surveys combined (all residents)

Total Surveys 428

1 As you traveled to this attraction, did you notice the brown post-interchange signs on I-65 that mentioned this attraction?		2 How many of these signs did you see?		3 Did you visit this attraction because you saw the brown signs today?		4 Did you notice the signs on another occasion that led to your coming here today?		5 How did you learn about this attraction?	
635 Yes	78.9	10	0.2	119 Yes	20	169 Yes	27.3	130 Friends/Relatives/Word of mouth	33.5
129 No	16	149 1	28.5	476 No	80	449 No	72.7	26 Previous Visits	6.7
41 Didn't Take I-65 or I-24	5.1	219 2	41.9	233 Blank	0	210 Blank	0	6 Rest Stop Brochure	1.5
23 Blank	0	102 3	19.5					24 Lives Near By	6.2
		26 4	5					9 Brown Signs	2.3
		6 5	1.1					23 Owns Corvette	5.9
		3 6	0.6					72 Other Brochure	18.6
		3 7	0.6					8 Magazine Article	2.1
		1 10	0.2					7 AAA Guidebook	1.8
		1 11	0.2					20 Internet	5.2
		1 20	0.2					14 Saw While Driving By	3.6
		11 Many / A Lot	2.1					49 Misc	12.6
		305 Blank	0					440 Blank	0

6 Do you find the brown signs to be a pleasing color?		7 Do you know what the color of the signs mean compared to interstate highway signs of other colors (such as blue)?		8 What do you think the brown color of the sign means?		9 Were the signs large enough to catch your attention?		10 Was the print on the signs large enough for clear viewing?	
557 Yes	78.9	373 Yes	53.4	153 Tourist Attraction	49.8	642 Yes	90	651 Yes	93.7
149 No	21.1	325 No	46.6	46 Historic Site	15	71 No	10	47 No	6.7
122 Blank	0	130 Blank	0	36 State Run Park	11.7	115 Blank	0	130 Blank	0
				31 Park / Nature At	10.1				
				41 Misc	13.4				
				521 Blank	0				

11 Currently, the brown post-interchange signs tell the number of miles to an attraction. Do you think the signs would be more useful if they showed the exit number instead?		12 Did you have any trouble finding this attraction?		13 Did the secondary brown signs (once you exited the interstate) help you find the attraction?		14 How did you locate the attraction?		15 Which of the brown signs did you find the most helpful, the post-interchange signs on the interstate or the secondary signs after you exited the highway?	
445 Yes	66.2	109 Yes	13.8	443 Yes	60.3	22 Have Visited Before	8.6	361 Post-Interchange	56.6
227 No	33.8	683 No	86.2	292 No	39.7	22 Live In Area	8.6	175 Secondary	27.4
156 Blank	0	36 Blank	0	93 Blank	0	4 Friend Drove Me	1.6	102 Saw No Secondary	16
						14 Signs	5.5	190 Blank	0
						39 Asked For Directions	15.2		
						29 Saw Attraction From	11.3		
						15 Luck - Guessed	5.9		
						35 Map / Brochure	13.7		
						76 Misc	29.7		
						572 Blank	0		

16 Have you visited this attraction before today?			17 How many times?			18 Do you think you will visit this attraction again?			19 Would you recommend this attraction to others?			20 What is your state of residence?		
238	Yes	30	57	1	26.3	593	Yes	77.1	771	Yes	99.1	28	AL	3.5
555	No	70	33	2	15.2	176	No	22.9	7	No	0.9	2	AZ	0.3
35	Blank	0	23	3	10.6	59	Blank	0	50	Blank	0	2	AR	0.3
			14	4	6.5							17	CA	2.1
			12	5	5.5							4	CO	0.5
			8	6	3.7							1	DC	0.1
			4	7	1.8							24	FL	3
			2	8	0.9							14	GA	1.8
			1	9	0.5							78	IL	9.9
			11	10	5.1							68	IN	8.6
			3	12	1.4							3	IA	0.4
			1	14	0.5							2	KS	0.3
			8	20	3.7							218	KY	27.6
			1	30	0.5							4	LA	0.5
			1	50	0.5							1	ME	0.1
			38	Many / A Lot	17.5							5	MD	0.6
			611	Blank	0							4	MA	3.7
												29	MI	3.6
												3	MN	0.4
												3	MS	0.4
												14	MO	1.8
												1	MT	0.1
												1	NE	0.1
												1	NH	0.1
												4	NJ	0.5
												10	NY	1.3
												6	NC	0.8
												1	ND	0.1
												67	OH	8.5
												6	OK	0.8
												16	PA	2
												3	SC	0.4
												1	SD	0.1
												100	TN	12.6
												11	TX	1.4
												1	UT	0.1
												6	VA	0.8
												5	WA	0.6
												8	WV	1
												15	WI	1.9
												4	Resides in Canada	0.5
												37	Blank	0

21 What is your county of residence?			22 How many visitors are in your group today?			23 How many children are in your group?		
			37	1	4.7	504	0	65.4
			345	2	44.1	111	1	14.4
			111	3	14.2	87	2	11.3
			129	4	16.5	39	3	5.1
			49	5	6.3	11	4	1.4
			49	6	6.3	9	5	1.2
			15	7	1.9	3	6	0.4
			21	8	2.7	2	7	0.3
			5	9	0.6	1	8	0.1
			2	10	0.3	3	9	0.4
			2	11	0.3	1	12	0.1
			2	13	0.3	57	Blank	0
			1	14	0.1			
			3	15	0.4			
			1	16	0.1			
			3	17	0.4			
			3	20	0.4			
			3	22	0.4			
			1	42	0.1			
			0	Tour Group	0			
			46	Blank	0			

**All surveys combined (KY residents only)**

Total Surveys

1 As you traveled to this attraction, did you notice the brown post-interchange signs on I-65 that mentioned this attraction?		2 How many of these signs did you see?		3 Did you visit this attraction because you saw the brown signs today?		4 Did you notice the signs on another occasion that led to your coming here today?		5 How did you learn about this attraction?						
139	Yes	65	35	1	33.3	13	Yes	10.1	50	Yes	28.4	34	Friends/Relatives/Word of mouth	33.7
55	No	25.8	54	2	51.4	116	No	89.9	126	No	71.6	9	Previous Visits	8.9
19	Didn't Take I-65 or I-24	9.2	9	3	8.6	89	Blank	0	42	Blank	0	1	Rest Stop Brochure	1
5	Blank	0	5	4	4.8							19	Lives Near By	18.8
			1	5	1							2	Brown Signs	2
			1	10	1							15	Other Brochure	14.9
			113	Blank	0							3	Internet	3
												3	Saw While Driving By	3
												15	Misc	14.9
												117	Blank	0

6 Do you find the brown signs to be a pleasing color?		7 Do you know what the color of the signs mean compared to interstate highway signs of other colors (such as blue)?		8 What do you think the brown color of the sign means?		9 Were the signs large enough to catch your attention?		10 Was the print on the signs large enough for clear viewing?						
130	Yes	76	80	Yes	48.8	26	Tourist Attraction	40	151	Yes	88.8	156	Yes	90.7
41	No	24	85	No	51.5	8	Historic Site	12	19	No	11.2	16	No	9.3
47	Blank	0	53	Blank	0	10	State Run Park	15.4	48	Blank	0	46	Blank	0
						9	Park / Nature At	13.8						
						12	Misc	18.5						
						153	Blank	0						

11 Currently, the brown post-interchange signs tell the number of miles to an attraction. Do you think the signs would be more useful if they showed the exit number instead?		12 Did you have any trouble finding this attraction?		13 Did the secondary brown signs (once you exited the interstate) help you find the attraction?		14 How did you locate the attraction?		15 Which of the brown signs did you find the most helpful, the post-interchange signs on the interstate or the secondary signs after you exited the highway?						
112	Yes	67.9	26	Yes	12.2	88	Yes	45.4	11	Have Visited Before	12.9	83	Post-Interchange	53.2
53	No	32.1	187	No	87.8	106	No	54.6	20	Live In Area	23.5	41	Secondary	26.3
53	Blank	0	5	Blank	0	24	Blank	0	4	Signs	4.7	32	Saw No Secondary	20.5
									13	Asked For Directions	15.3	62	Blank	0
									4	Saw Attraction From	4.7			
									5	Luck - Guessed	5.9			
									8	Map / Brochure	9.4			
									20	Misc	23.5			
									133	Blank	0			

16 Have you visited this attraction before today?		17 How many times?		18 Do you think you will visit this attraction again?		19 Would you recommend this attraction to others?		20 What is your state of residence?						
108	Yes	50.2	21	1	21.9	190	Yes	89.2	210	Yes	98.6			
107	No	49.8	11	2	11.5	23	No	10.8	3	No	1.4			
3	Blank	0	8	3	8.3	5	Blank	0	5	Blank	0			
			7	4	7.3									
			5	5	5.2									
			2	6	2.1									
			2	7	2.1									
			1	8	1									
			4	10	4.2									
			2	12	2.1									
			5	20	5.2									
			1	30	1									
			1	50	1									
			26	Many / A Lot	27.1									
			122	Blank	0									

21	What is your county of residence?	22	How many visitors are in your group today?	23	How many children are in your group?			
2	Allen	1	4	1	136	0	64.5	
1	Anderson	0.5	89	2	41.8	33	1	15.6
1	Barren	0.5	23	3	10.8	21	2	10
2	Boone	1	38	4	17.8	9	3	4.3
4	Boyle	1.9	17	5	8	3	4	1.4
1	Breckinridge	0.5	22	6	10.3	4	5	1.9
3	Bullitt	1.4	5	7	2.3	1	6	0.5
2	Butler	1	4	8	1.9	1	8	0.5
2	Caldwell	1	2	9	0.9	2	9	0.9
2	Calloway	1	1	10	0.5	1	12	0.5
3	Campbell	1.4	2	15	0.9	7	Blank	0
3	Carroll	1.4	3	17	1.4			
1	Casey	0.5	3	22	1.4			
8	Christian	3.9	5	Blank	0			
2	Clay	1						
2	Crittenden	1						
8	Daviess	3.9						
6	Fayette	2.9						
1	Floyd	0.5						
1	Franklin	0.5						
3	Graves	1.4						
2	Grayson	1						
7	Hardin	3.4						
1	Hart	0.5						
11	Henderson	5.3						
2	Henry	1						
1	Hickman	0.5						
2	Hopkins	1						
19	Jefferson	9.2						
1	Johnson	0.5						
2	Kenton	1						
1	Knox	0.5						
1	Laurel	0.5						
1	Lincoln	0.5						
1	Livingston	0.5						
1	Logan	0.5						
14	McCracken	6.8						
2	McCreary	1						
3	McLean	1.4						
2	Madison	1						
1	Marion	0.5						
17	Marshall	8.2						
2	Meade	1						
2	Metcalfe	1						
1	Montgomery	0.5						
1	Muhlenberg	0.5						
2	Nelson	1						
2	Ohio	1						
2	Oldham	1						
3	Owen	1.4						
1	Pulaski	0.5						
1	Scott	0.5						
3	Shelby	1.4						
3	Simpson	1.4						
0	Taylor	0						
1	Todd	0.5						
3	Trigg	1.4						
1	Trimble	0.5						
1	Union	0.5						
27	Warren	13						
1	Wolfe	0.5						
11	Blank	0						

## 12.3 APPENDIX C – ATTRACTION COMMENTS

*"A special place where friends bring friends."*



Monica L. Barrett  
Kentucky Transportation Center  
University of Kentucky  
240 G Raymond Building  
Lexington, Ky. 40506-0281

April 11, 2002

Good Morning, Miss Barrett,

I have put together what I believe you are looking for. Enclosed are our customer counts starting in 1999 and ending in March of this year. As you can see we were on a down turn in 1999 and 2000. When the Interstate signs were installed in the Winter of 2000 we began to show an increase again. No sooner were we gaining ground and September 11<sup>th</sup> happened and our numbers for September and October dropped again. Lucky for us good weather held and with advertising we were increasing our counts again in November, December and January. February and March brought bad weather and more stock market uncertainty, people decided to stay at home but Spring break hit us full force and our numbers were up once again. Since most people do their traveling during daylight hours you can see the impact the signs have had on our AM customer counts. I asked the ladies at Kentucky Western Waterland information center, located at exit 31 on I-24, if they noticed more people asking directions to Patti's because of the brown signs. The answer was a most emphatic "Yes!",

Every time I talk with our customers, I find that there are more and more new visitors at Patti's. Just last week I visited with a couple from Wisconsin who had been told about Patti's from friends in Florida. They couldn't remember our name but saw the signs on the Interstate and decided to give us a try. They were very pleased with their meal and will be back in the Fall on their way home.

Another area where the signs have been helpful is with our efforts to secure loans from our Bank for further improvements and new additions to Patti's Settlement. This point was brought out in our favor, that Patti's has a high enough quality product to be picked by the State to try out new signage.

### PATTI'S ENTERPRISES, L.L.C.

DBA Patti's 1880's Settlement ☎ 270-362-8844 • 888-736-2515

Web Site: [www.pattis-settlement.com](http://www.pattis-settlement.com) ☎ Email: [pattis@apex.net](mailto:pattis@apex.net)

Patti, Bill, Chip, Michael Lee, Lawana & Mike Tullar, Owners

P.O. Box 111 • Grand Rivers • Kentucky 42045 • I-24, Exit 31 • North entrance to the Land Between The Lakes Recreation Area

What these signs have meant to Patti's, located in a town of 350 people, off the beaten path and two to three hours from the nearest big city, is that we still served over 350,000 meals last year. Patti's has created a special place for people of all backgrounds to come and enjoy a great meal, beautiful gardens and escape the rush of the city.

I hope I have conveyed to you what my family has tried to accomplish here and how much the signage on the Interstate has helped Patti's now and in the future. We plan on continued growth to keep the folks coming back year after year with the help of the signs on the Interstate.

Sincerely,

A handwritten signature in cursive script that reads "Michael P. Tullar".

**Michael P. Tullar, President  
Patti's Enterprises, LLC**



HISTORIC  
**Diamond Caverns**  
PRESENTING SPECTACULAR NATURAL BEAUTY FOR 140 YEARS

## Diamond Caverns Post-Interchange Brown Sign Impact

### Management Experience:

My wife Susan and I have extensive experience operating show-cave tourist business in three states, (Virginia, Colorado & Kentucky). Collectively we have 23 years of successful management experience in this field. My specialty is advertising and promotions. My partner Gordon Smith has over 28 years of experience in show-cave management.

### Observations:

The Highway Beautification Act has all but eliminated billboard advertising for the show-cave industry, which has had a severe negative impact. For many cave operations around the U.S. this single act of legislation was responsible for the demise of many previously healthy cave businesses nation-wide. Only those with extensive visitation and promotional experience were to survive. Many now only operate marginally profitably show-cave businesses. Without adequate funding many previously well-run and properly conserved natural wonders fell into disrepair and demise. As they were sold on the open real estate market, many caves were subject to less environmentally caring ownership.

### Overall Opinion:

Today the Interstate Brown Signs are our life-blood. I can't over state the importance of such signage. I would like to recognize that our interstate highway system is more attractive today as a result of fewer signs cluttering our countryside. However, tourists need assistance finding their destinations. The previous use of a single brown sign only seconds before the exit was helpful, it did not allow sufficient time for the traveler to prepare to exit the interstate safely. Nor did it allow any time for the decision making process whether to visit the attraction or not.

While other advertising means are to one degree or another effective, the cost factors involved with both print and electronic media are often out of reach for the budget of many in the cave business. The resulting tourism landscape often lacks diversity. Now only the "Disney" size attractions can afford such extensive advertising necessary to maintain economic health. Compound this factor with the fact that many urban science museums are creating "artificial caves" that are being promoted by public funding. This now puts the genuine caves on the "economic endangered species list". Survival for our business would be extremely difficult without these signs. It would be a shame for the fourth oldest show-cave in the country to fail due to lack of tourism exposure while being located only a mile from the interstate.

Our visitation at Diamond Caverns has risen on average 49.82 % since installation on August 29<sup>th</sup> 2001. This growth figure is even more impressive when you take into consideration the negative impact on tourism nation-wide of September 11<sup>th</sup> terrorist attack on the U.S.

My partners and I purchased Diamond Caverns in July of 1999. The cave visitation was less than 9,000 people per year at that time. We did not have a single brown sign. Since then we now have the three brown signs from the north and three from the south for Diamond Caverns. Our visitation was up to over 25,000 people last year. We hope to reach 30,000 this year. We are very grateful for the opportunity to participate in such an economically vital program. With luck we may become financially self sufficient by the end of this year. We're keeping our fingers crossed.

Please feel free to call on me for any further information regarding this program. I would be willing to meet with legislators to further explain the phenomenal impact these new signs have brought to our business.

Best regards,

A handwritten signature in cursive script that reads "Gary C. Berdeaux".

Gary C. Berdeaux  
Managing Partner,  
Diamond Caverns, LLC.



April 23, 2002

Ms. Monica L. Barrett  
Kentucky Transportation Center  
University of Kentucky  
240G Raymond Building  
Lexington, KY 40506-0281

Dear Monica:

It is with great pleasure that we present the statistics for visitation for the year 2001. As you will find, our visitation has *increased by approximately 10,000* over the previous twelve-month period. We feel that this increase is due in great part to the brown tourist guide signs.

Lost River Cave & Valley is managed by a non-profit group of citizens dedicated to the preservation of Warren County's greatest natural asset. The Cave and Valley, listed on the register for National Historic Places, is an opportunity to teach thousands of visitors each year about living in a karst environment, as well as providing an outstanding value in family entertainment.

In addition to providing funding for historic and ecological education opportunities, the *increased visitation* brought about by this important signage program has made it possible for the Friends of the Lost River to provide many needed capital improvements. The signage program brings benefits, not only to our site, but also to our community with jobs and a better quality of life in Warren County. Not only is Lost River Cave & Valley securing its future with the help the signage program, but all the people of in the Commonwealth gain, both economically and in terms of the protection of its heritage.

Thank you for giving us the opportunity to participate in this extraordinary effort between the various government entities charged with the execution of this highly beneficial program.

Sincerely yours,

Rho Lansden  
Executive Director

*Friends of Lost River, Inc. • 2818 Nashville Road • Bowling Green, KY 42102*  
*(270) 393-0077 • Toll Free: 866-274-CAVE (2283) • Fax: (270) 393-0076*  
*Email: lostrivercave1@hotmail.com*